REMARKS

Claims 1-24 are pending in this application. Claims 1-24 have been rejected under 35 USC §103 as being unpatentable over Farris et al (U.S. Patent No. 6,574,216). Claims 25-38 have been added. Claims 1-38 remain in the case for reconsideration. Reconsideration is requested. No new subject matter has been added.

Claims 25-38 have been added in this supplemental office action response. In the comments below a further explanation is give why claims 25-38 are allowable over the cited art.

Claims Rejections - 35 USC § 103

Claim 1 recites a module, located within a digital signal processor, for establishing a network connection for the transmission of data packets and for determining the quality of service of the network connection. To determine the quality of service, the module in claim 1 determines the round trip time (RTT) of a data packet through the network connection and determines at least one performance parameter using the same processor that encodes voice signals into data packets. Claims 7, 13 and 19 recite similar limitations. This is described in the specification on pages 6 and 7.

The Examiner alleges that Farris's Internet Module 92 discloses the recited module for establishing a network connection for the transmission of data packets and determining the quality of service of the network connection. The Examiner, further, alleges that the Quality Test Application 122 within the Internet Module 92 performs a plurality of repetitive tests to determine performance parameters, and thus determines the quality of service of the connection. However, Farris does not disclose the determining of the performance parameters using the same processor used for encoding the voice signals into data packets. Conversely, Farris converts the voice signals into data packets in a separate Compression/Decompression module 132.

The module recited in claim 1 determines the performance parameter and encodes the voice signals using the same processor. This allows more accurate measurement of the time variances between packets and allows detection of silence, redundancy and interruptions of packet transmissions.

The Examiner alleges that Farris discloses "an obvious functional equivalent" in determining the performance parameters. However, Farris only discloses determining the performance parameters when there is silence between packet transmissions. Farris, column 10, lines 48-58. The performance parameters and the quality of service that Farris determines

are not as accurate as those in the recited claim because the performance parameters in Farris are not determined using the same digital signal processing stage and thus can not take into account redundancy and interruption factor as specified in claims 5, 11, 17, and 23. Therefore, it would not be obvious to a person of ordinary skill in the art to determine the performance parameter in the digital signal processing stage because of the increased accuracy of the performance parameter measurements and thus the quality of service determination that it enables.

NEW CLAIMS 25-37 ADDED IN THE SUPPLEMENTAL AMENDMENT.

New claims 25-37 are also allowable because Farris does not suggest taking into account how transmitting the data packets over a network connection affects performance of a digital signal processing stage used for encoding or decoding the voice data.

The examiner states that Farris at Column 10, line 60-65 discloses determining the frequency of missed or dropped voice packets which is the functional equivalent of voice sample signal loss. Applicant respectfully disagrees.

The effects of dropped packets is not equivalent to taking into account the effects of dropped or delays between voice samples in an encoder or decoder. Taking into account the effects of encoding and decoding sample loss or delay can provide a better indication of network performance.

For example, a dropped packet can have a completely different effect on audio quality depending on the type of encoder or decoder. Second, the effects of a dropped packet on audio quality can depend on the type of voice data or the number of voice samples associated with the dropped packet. Therefore, a dropped packet in a first encoder/decoder system may have little or no effect on perceived voice quality. However, in another encoder/decoder system, the same dropped packet may have a substantial effect on perceived voice quality.

One aspect of the invention takes into account how the network characteristics effects the voice samples in the voice encoder or decoder to provide a better indication of the listening quality of a network connection experienced by an end user.

Conversely, Farris ignores the effects of dropped voice samples in a voice encoder or decoder. For example, the quality test application 122 in FIG. 5 of Farris ignores the compression/decompression stage 132.

CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-38 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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